Prehistory therefore, has been largely neglected because of the richness of historic finds, and the lack of interest of European scholars in prehistory outside Europe. Some work, however, was done. Dr. Rene Girshman, now Chief du Mission, Delegation Archeologique Francaise en Iran, sunk test pits at Nad-i-Ali in Seistan (southwest of Afghanistan) just before World War II and found materials relating to the late Bronze Age-Early Iron Age, probably dating about the mid-first millenium B.C. Other than Girshmann's work, however, 9 the prehistoric periods of Afghanistan remained unplumbed, and few could have predicted the rich finds which would result after 1949, the date of the first archaeological survey charged specifically with the identification of prehistoric sites. 10

Surveys and Excavations: 1949-1966

In the summer of 1949 a team of three American graduate students arrived in Afghanistan complete with jeep, trailer, beards, topees, pukka shorts, little knowledge but unlimited enthusiasm, little money but boundless energy. Flavorful newspaper accounts of "Lost Cities" resulted in some unpleasant publicity from the Afghan point of view, 11 but the first expedition of the American Museum of Natural History did record a series of potential prehistoric mounds in southcentral and southwestern Afghanistan 12, and the second expedition (1950-51) led by Walter A. Fairservis, Jr. did primer work in the prehistory of Afghanistan.

After Fairservis tested the mound of Deh Morasi Ghundai near Kandahar and moved on for additional surveys in Seistan, 13 Louis Dupree made more extensive exacavations and uncovered a series of Chalcolithic (Copper Age) occupational levels dating from the 4th millenium B.C. to the mid-1st millenium B.C. The site possibly represents a semi-sedentary situation, common in parts of Afghanistan today; i.e. a part of the people seasonally move into alpine pastures in the Hazarajat with flocks of sheep, goat, and cattle, while the bulk remain in the village area to farm the adjacent land (14)

After Dupree completed his work at Deh Morasi Ghundai, Jean-Marie Casal began a series of exacavtions (1951-58, 10 field seasons) at Mundigak, about 50 kilometres north of Deh Morasi Ghundai. The two sites

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9. Réne Ghirsham, Fouilles de Nadi-Ali dans le Seistan Afghan, *Revue Arts Asiatiques* 13-1: 10-22, 1939.
10. Walter A. Fairservis, Jr., Exploring the desert of death, *Natural History* 59-6: 246-253, 1950.
11. A.A. Kohzad, The tour of the archaeological mission of the American Museum of Natural History in Seistan, *Afghanistan* 5-1: 28-32, 1950.
12. Walter, A. Fairservis, Jr. Archaeological research in Afghanistan, *Transactions of the New York Academy of Science series* 2, 12-5: 172-74, 1950.
13. Walter A. Fairservis, Jr., *Archaeological Studies in the Seistan Basin of South-Western Afghanistan and Eastern Iran*, New York, 1961.
14. Louis Dupree, *Deh Morasi Ghundai: A Chalcolithic Site in South Central Afghanistan*, New York, 1963.

(Deh Morasi Ghundai and Mundigak) seem to compliment one another. Whereas Deh Morasi throughout most of its periods represents a small semi-sedentary village with a transitional economic base of wheat-barley agriculture and sheep, goat, cattle transhumance, Mundigak slowly developed from a small agricultural village with some evidence for semi-sedentarization to a town with a granery and possible connections with the Indus Valley civilization. (15)

Prehistoric research remained relatively quiescent after the completion of the Mundigak digs until 1959 when Dupree returned to Afghanistan. During this period, however, systematic cave archaeology began. (16) Professor Carlton S. Coon, of the University of Pennsylvania, a pioneer in scientific cave research in the Middle East, excavated Kara Kamar near Haibak and discovered at least two, and possibly four, cultural levels: 1. an amorphous flake industry at the bottom; 2, an "Aurignacian" Upper Palaeolithic blade industry; 3, another amorphous flake industry; 4, a micro-blade, micro-core "Mesolithic".

In November-December 1959 Dupree and Abdur Rauf Wardak of the Kabul Museum surveyed most of the limestone hills of the north Hindu Kush and recorded 100 caves and 150 mounds of archaeological interest. (17) Dupree identified the following areas of primary importance to prehistoric research.

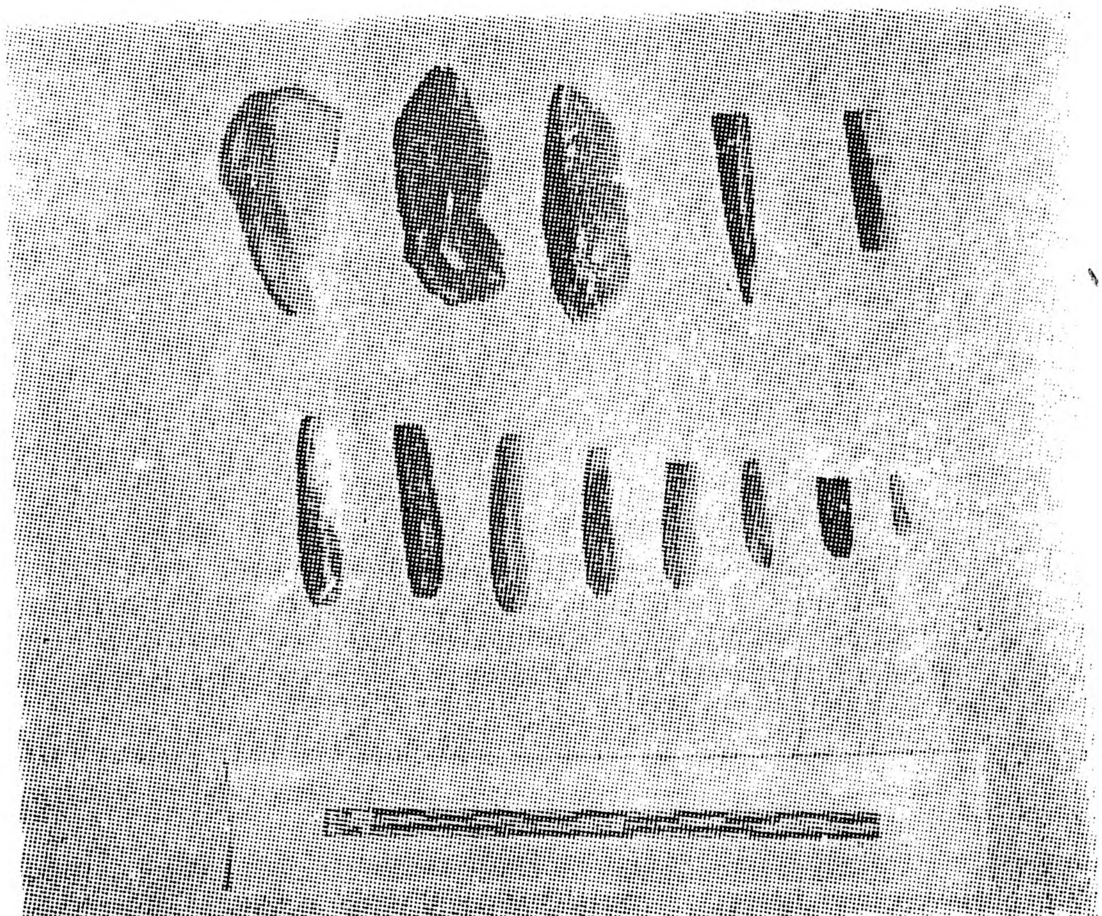
1. Chenar-i-Gunjuzkan (36°44'N, 69°59'E). Two caves, Hazar Gusfand and Dara-i-Kur, were found in western Badakhshan, with "Mousterian-like" flake implements on the telus slopes.

2. Aq Kupruk (36°5'N, 66°51'E). About six large rock shelters exist on the terraces of the Balkh River near the town of Aq Kupruk, south of Mazari-Sharif. (18) In addition, a series of dried up steram beds, principally Dara Dadil and Dara Chakhmakh (Chakhmakh means flint in Dari) southeast of Aq Kupruk yielded several hundred flint implements, primarily core and scraper types of possible "Mousterian" and "Upper Palaeolithic" affinities. (19)

3. Tashkurgan (36°42'N, 67°41E). A small mound, literally covered with microlithic flints, sits east of Tashkurghan and may represent a transitional site occupied as man moved from mountain caves to riverine valleys.

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15. Jean-Marie Casal, *Fouilles de Mundigak*, Paris, 1961.
16. Carlton S. Coon, *The Seven Caves*, New York, 1957.
17. Louis Dupree, Prehistoric archaeological surveys and excavations in Afghanistan: 1959-60 and 1961-1963, *Science*, 146-3644:638-640, 1964.
18. Louis Dupree, An archaeological survey of north Afghanistan, *Afghanistan* 15-3:13-15, 1950.
19. Louis Dupree and Bruce Howe, Results of an archaeological survey for stone age sites in north Afghanistan, *Afghanistan* 18-2:1-15, 1963.



Kuprukian B (Upper Palaeolithic) implements from Aq Kupruk 11 (Horse Cave). Photo: H. E. Klappert



Late Bronze Age-Early Iron Age burial. Aq Kupruk IV (Skull Cave). Photo: Dupree.

4. Maimana (34°55'N, 64°46'E). Several caves were found in the limestone hills south of Maimana.

Two summer field seasons (1962, 1965) 20 of excavations at Aq Kupruk at four localities produced a typological sequence leading from the upper Palaeolithic (two levels of "Kuprukian", a blade-plus-micro industry), a Neo-Ceramic Neolithic, a Ceramic Neolithic, two major Nomadic Bronze Age assemblages and a Late Bronze Age-Early Iron Age assemblage including several burials complete with grave furniture. The uppermost levels included material from Kushano-Buddhist periods of the mid-fifth to seventh centuries A.D. A series of mutilated Buddhist paintings occured in association with the Kushano-Buddhist material.

An Italian archaeologist, Salvatone M. Puglisi, working for ISMEO (directed by Professor G. Tucci) reports some "Clactonian" implements near Hazar Sum in the Haibak area, (21) and personally informed me of an Upper Palaeolithic industry like that of the Aq Kupruk Kuprukian, but as of the date of this writing nothing has appeared in print.

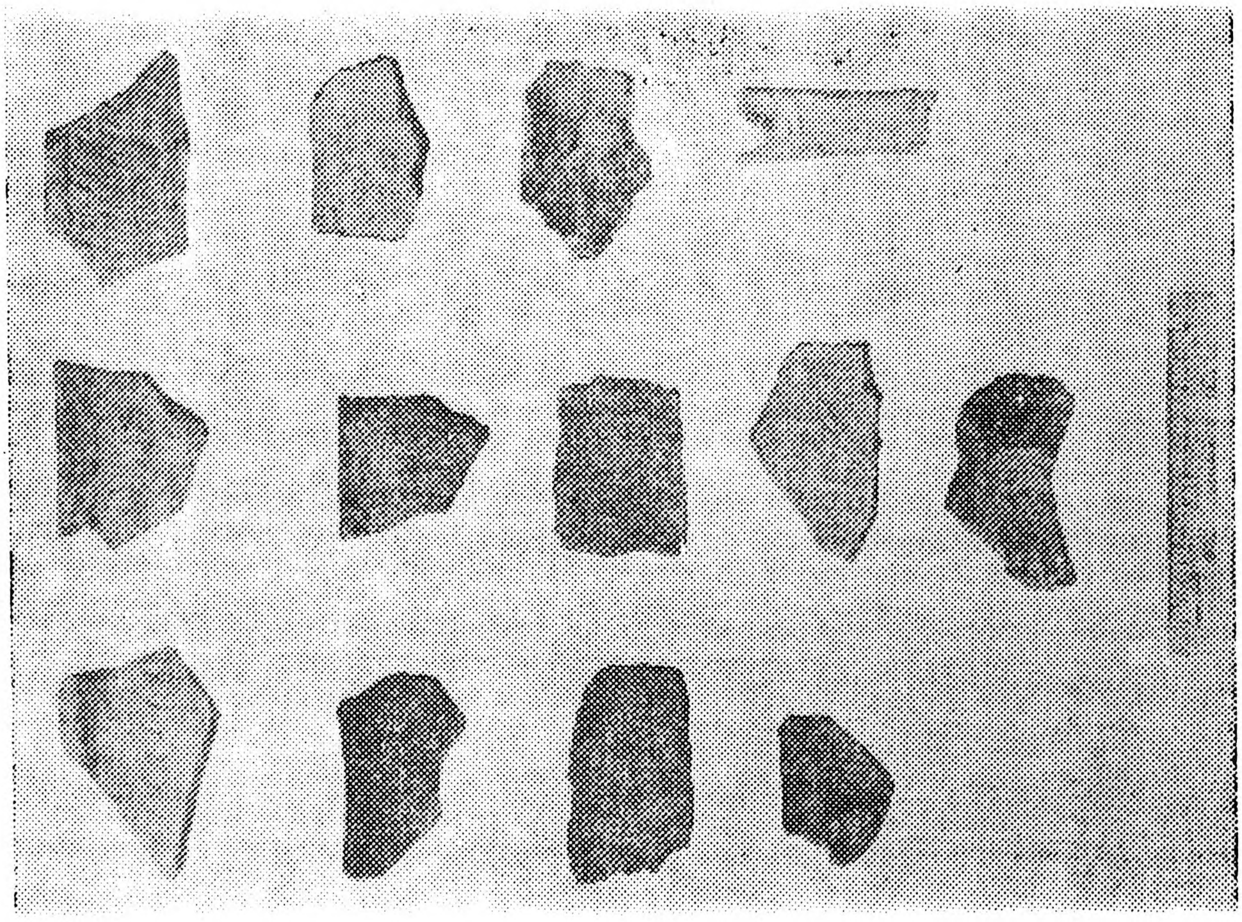
The most recent prehistoric work in Afghanistan has been at Dara-i-Kur in Badakhshan, near the village Chenari-i-Baba Darwesh, off the road from Chenar-i-Gunjuzkan Here, in the summer of 1966, Dupree and colleagues (including Harvard trained paleontologist Dr. Dexter Perkins, who had worked at Aq Kupruk) found four cultural levels: Middle Palaeolithic (a "Mousterian" flake industry with overtones of a nascent blade industry plus a human skull fragment as yet unidentified as to species); a late Neolithic (two C-14 dates by Geochron Laboratores, Inc.: 3780 + 130 years before 1950, 3425 + 125 years before 1950), with a distinctive crude black and red punctuated incised decorated pottery, three intentional goat burials and fragments of three children's skeletons; Iron Age (Kushan?); an Islamic with some fifteenth century A.D. Timurid pottery.

The Cultural Periods (See Chart I)

Archaeologists have just scratched the surface of prehistoric research in Afghanistan, but a phenomenal increase in activity and the wealth of the finds deserves a preliminary inventory at this time. No definitive conclusions can be drawn, but, from the evidence, certain inferences can be made. Let us now examine the actual finds by typological period. It must be remebered that the terminology used does not imply contemporaneity with other Eurasian or African archaeological periods, but simply pigeonholes the industries typologically. The parenthetical dates are either from radio carbon dating techniques of charcoal and bone samples, or interpolations between known Carbon-14 dates.

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20. Louis Dupree, *op. cit.*, 1964.
21. Salvatore M. Puglisi, Preliminary report on the research of Hazar Sum (Samangan), *East and West* new series 14-12, 2: 1963.





Neolithic pottery, bone and flint. Aq Kupruk I (Snake Cave). Photo: American Museum of Natural History.

Mundigak pottery. Photo: Kabul Museum.

MIDDLE PALAEOLITHIC (34,000 years plus (22). The flake tools found on the river terraces of Dara Dadil, Dara Chakhmakh and Hazar Sum indicate the probable existence of a Middle Palaeolithic industry in north-central Afghanistan, but we have actual stratographic evidence of a "Mousterian" industry discovered during the summer of 1966 by Dupree and his colleagues at their excavations at Dara-i-Kur in Badakhshan. Dara-i-Kur is a large rock shelter sitting high above the modern valley floor.

Just prior to the occupation of Dara-i-Kur by Middle Palaeolithic man, a lake covered the entire valley, as witnessed by thick deposits of greenish lacustrine clays on the floor of the rock shelter and in front on the telus slope. Many fresh water clam fossils were recovered by the excavators. As the lake decreased in size, Middle Palaeolithic man lived on its shores underneath the overlapping limestone rock shelter of Dara-i-Kur. The excavators uncovered about 800 implements and debitage (trimming flakes) made of a black (possibly basaltic) material as well as a ratty flint, quartzite, impure jasper, limestone, and a yellowish stone not yet identified. The tools were made using the classic Levallois technique, faceted platforms prepared on a flint core or nucleus, from which implements were struck. Tool types included: Levallois flakes, Levallois points, large side scrapers, large cleaver, asymmetrica points, flake-blades (probably knives or scrapers), accidental "burins" (possibly for working bone and wood) various types of prepared tortoise cores, and such combination tools as possible burin-points and burin-blades.

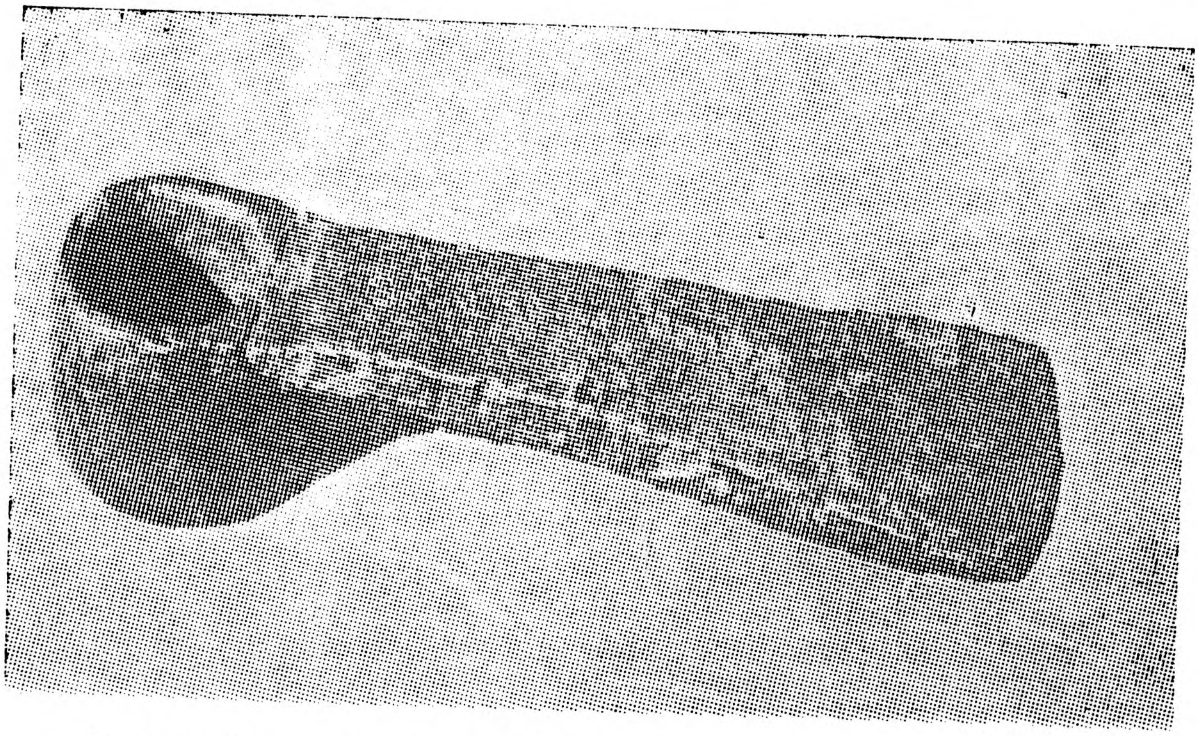
A rounded limestone pebblle fragment may possibly have been crudely reshaped into the shape of a woman's head by a Middle Palaeolithic sculptor. If true, the specimen probably represents an attempt at a very early "Mother Goddess", important in the development of religion as well as art.

The few bones found in the Middle Palaeolithic levels could be identified only as sheep or goat and one possible large bovine specimen. The excavators located no definable hearths, but uncovered many flakes of charcoal in the zone between the upper lake clays and the lower cave gravels. The probable explanation for the absence of hearths is that a major roof fall now blocks over one-half of the Middle Palaeolithic occupation area, and the hearths and bones remain undisturbed for millenia. To remove the limestone roof fall, Dupree proposes the judicious use of dynamite and pneumatic drills, but major logistical and financial problems must be overcome before implementing this scheme.

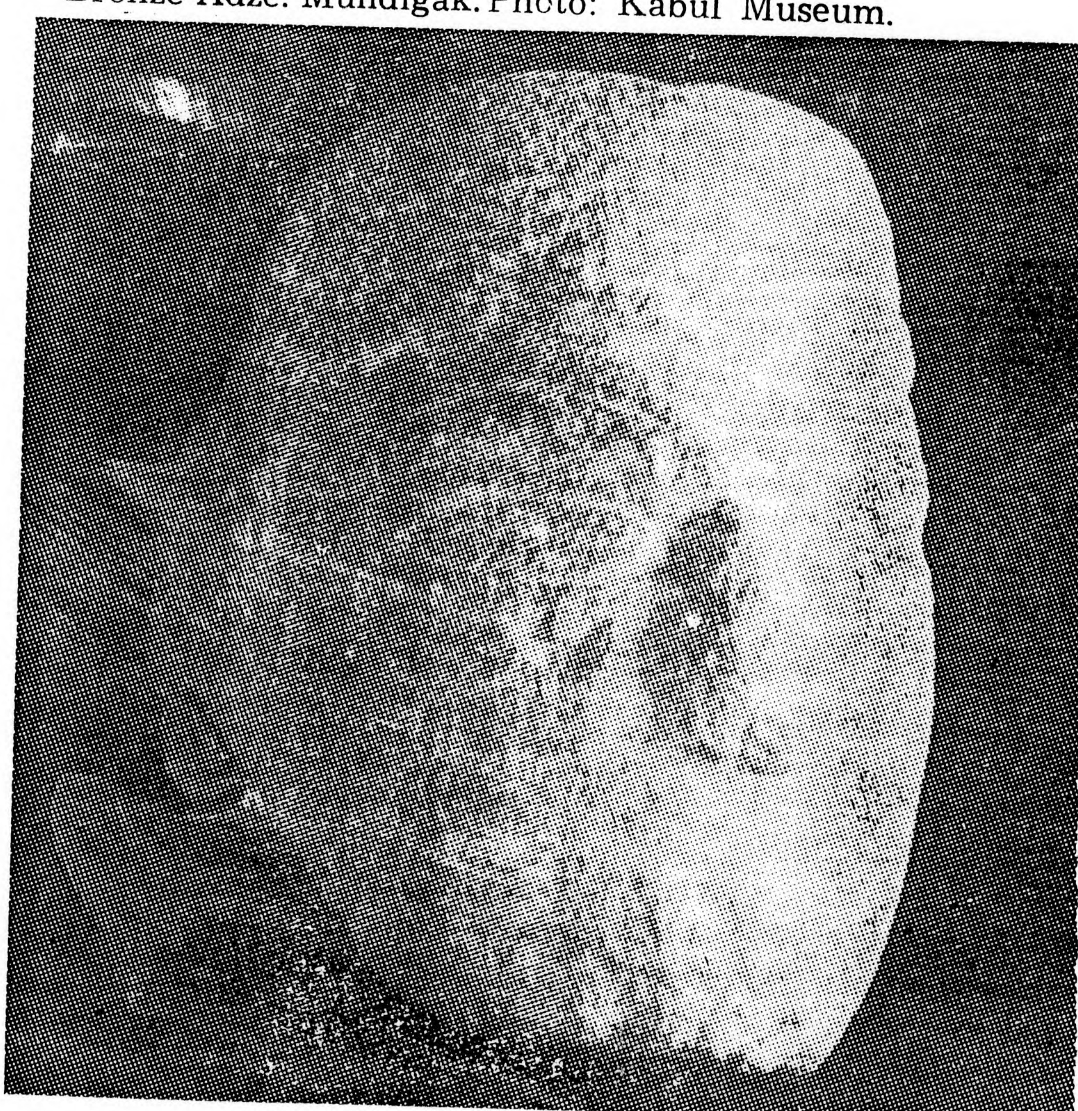
In the Middle Palaeolithic levels, the excavators discovered a massive human parietal which Dr. T. Dale Stewart of the Smithsonian Institution says is not distinguishable from modern man and gives rise to interesting possibilites. Although the fragment may be within the range of modern man it is at the massive end of the scale. Dr. J. Lawrence Angel, also of the Smithsonian Institution is now studying the fragment and undecided as to it species designation. Amazngly enough he has been able to

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22. Coon, *op.cit.*, 1957.



Bronze Adze. Mundigak. Photo: Kabul Museum.



Limestone sculpture. Photo: Kabul Museum.

recover the very delicate bones of the inner ear. What is needed, according to Dr. Angel, is a study of the inner surfaces of a series of previously excavated Neanderthal skulls, a study heretofore neglected.

Often, Middle Palaeolithic industries have been identified in association with Neanderthal man, the nearest being in Uzbakistan, U.S.S.R. with what Professor Hallam Movius calls "Developed Mousterian", (23) and Beistun and Tamtama in Iran. (24)

However, the Middle Palaeolithic industry at Dara-i-Kur with its suggestions of Upper Palaeolithic, plus the possible Homo sapiens sapiens skull fragment, represent the eastern-most finds of these phenomena and may possibly be in the zone of the origin of the Upper Palaeolithic blade industries which spread westward through Asia, Europe, and the northern bulk of Africa. An interesting recent discussion of the transition from Middle to Upper Palaeolithic with reference to relating industries to skelatal remains can be found in Current Anthropology. (25) The author, Pradel, hints that such a transition may have ocurred in the Near East. The Dara-i-Kur finds may add factual data to his speculations.

In other words, north Afghanistan may well be in the zone where modern Homo sapiens, or at least a variety of modern man, developed physically and began to revolutionize stone age technology with the advent of the Upper Palaeolithic blade industries.

UPPER PALAEOLITHIC (12-35,000 years before present; terminal date based on Coon's "Aurignacian" C-14 dates - -pre-34,000 at Kara Kamar).

Archaeologists have identified Upper Palaeolithic blade industries at two-and possibly at three localities: Kara Kamar, (26) Aq Kupruk, (27) and Hazar Sum (the unpublished Puglisi). As of this writing, Coon's Kara in "Aurignacian" has the only reported C-14 dates (5 runs): 34,000 years before 1950. (28) However, the small sample of 82 implements from the Kara Kamar "Aurignacian" make it impossible to define the industry, hence he quotes surrounding "Aurignacian". Of the 82 implements, 52 were nose scrapers. Other tools consisted of "Aurignacian-type" blades, unutilized microlithic blades, drill and three bone awls. No burins (gravers or end gravers) were found.

The Kara Kamar "Aurignacian" peoples apparently subsisted on wild sheep and horse. Tortoise shells appeared in all levels.

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23. Hallam L. Movius, Jr., The Mousterian cave of Teshik-Tash, Southeastern Uzbekistan, Central Asia, *American School of Prehistoric Research Bulletin* 17:11-71, 1953.
24. Carleton S. Coon, *Cave Explorations in Iran* 1949, Philadelphia, 1951.
25. L. Pradel, Transition from Mousterian to Perigordian skeletal and industrial *Current Anthropology* 7-1:33-50, 1966.
26. Coon, *op. cit.*, 1957.
27. Louis Dupree, *op. cit.*, 1964.

CHART II

THE PREHISTORY OF AFGHANISTAN: TENTATIVE CHRONOLOGICAL TABLE

	MORASI	MUDIGAK	SEISTAN SITES
URBAN DEVELOPMENT (c. 2000-1000 B.C.)	IV	VII 3 2 1	Nad-i-Ali 1000-750 B.C.?
		VI Periodic Occupation	GARDAN REG, etc.
		V 2 1 INVASION FROM FERGHANA	GARDAN REG, ETC.
	III	IV 3 2 1 INVASION FROM NORTH IRAN	GARDAN REG, etc.
PEASANT VILLAGES (c. 3000-2000 B.C.)	II	III 6 5 4 3 2 1 IMPETUS FROM SOUTH IRAN	
	GAP	II 3 2 1	
		I 5 4 3 2 1	
SEMISEDENTARY LIFE? (3000+ B.C.?)	I (Said Qala Ware)		

CHART III

MUNDIGAK-MORASI COMPARATIVE CULTURAL INVENTORY OF IMPORTANT ARTIFACTS

MORASI		MUNDIGAK	
IV	Islamic Glazed ware; copper compartmented seal; red-slip pottery.	VII	Flint projectile points; granaries; iron in quantity; steatite seal; alabaster; terracotta dogs; stone hoes; bronze awls, bronze trilobate arrowheads; red and gray slip potteries.
		VI	Flint projectile points; bronze projectile points; stone hoes; stone and baked-clay spindle whorls; bronze awls; alabaster; red slip or red surface pottery with violet designs.
III	Terracotta female figurine, late style; red-slip pottery; baked bricks.	V	Massive monument; red-slip pottery; steatite seals; bronze awls, seals, projectile points; flint projectile points; stone and baked-clay spindle whorls; alabaster; stone hoes; pottery bird head; terracotta female figurine (late).
II	Copper tubing and handle fragments; steatite spindle whorl; steatite seals; bone awls, scrapers, polished pendant; stone sling projectile?; metate-pestle; dibble weight; alabaster; faience? bead; pottery discs; animal figurine leg; bird terracotta figurine; clay figurine; clay spindle whorls, tube, missle; Zhob terracotta mother goddess figurine; copper pins; celts; sundried brick pise; shrine complex.	IV	The Palace and Temple; Zhob terracotta figurines; terracotta male figurines; bronze seals; flint blades, projectile points; stone hoes; stone discs; mortars; sculptured limestone head; flint microliths; terracotta bulls, goats, dog or pig; alabaster; bronze awls; pins; bird figurine vases; bronze lancehead; pottery and baked-clay spindle whorls;
		III	Pottery drains; terracotta human and bull figurines; stone and bone seals; clay and stone spindle whorls; alabaster; flint microliths, blades, projectile points; stone hoes; bone awls, needles, bone tube; copper and bronze awls, adzes, hoe, chisel, pin:
	GAP	II	Terracotta human and bull figurines; stone seals; flint projectile points; blades; copper pins, needles, awls, pin: ( ) clay spindle whorls; clay missle; bone awl; stone hoe.
		I	Stone hoes; copper awls; terracotta bull figurines; clay spindle whorls; alabaster; bone awls; pise and baked brick
I	Said Qala Coarse Ware pottery		

About 20,000 Upper Plaeolithic flint implements have been excavated from three localities of Aq Kupruk, about 50 kilometres over the mountains to the west of Kara Kamar. The Kuprukian industry, as the excavators call it, is stratigraphically divided in two phases at two of the three sites: Aq Kupruk II (Horse Cave or Ghar-i-Asp) and Aq Kuruk III, the open-air site on a river terrace. A thick (up to 1.5 meters) layer of sterile wind-blown loess separates the two phases to be called Kuprukian A (the older) and Kuprukian B.

The flint used to manufacture Kuprukian tools is brown, brownish-red, and homogenous, a very fine, easy material to work in contrast to the impure, silicious flint and other raw materials used in the Dara-i-Kur Middle Palaeolithic. According to mineralogists, the "flint" at Aq Kupruk should probably be called chert.

The Kuprukian A assemblage consists of a mixture of two Upper Palaeolithic industries: a blade tradition plus a mircrolithic tradition. The blade facies contains: cores, utilized and retouched blades, slide and end scrapers, keeled scrapers, nose scrapers, baked blades (retouched or blunted opposite the cutting edges), tanged points, and combination tools as end scrapers-burins. Some small flake hand axes are cleavers also occur. The micro industry included: cores, points, burins, bladelets, backed bladelets, but no geometrics, often one of the hallmarks of later Mesolithic industries. Upper Palaeolithic blades-plus micro industries have been frequently found in the Near East and Europe, particularly since World War II. (29)

The faunal finds of Kuprukian A, as identified by Perkins: Cervus elaphus (Red deer); Ovis orientalis cycloceros (Urial); Capra hircus aegarus (Bezoar); wild cattle; jackal.

The Kuprukian B assemblage closely resembles that of Kuprukian A but separated in time by the sterile loess. However, the number of micro tools increases in comparison to the number of blade implements. Some bone points, awls, punches, and other perforator types of bone fragmentary tools occur in Kuprukian B, in addition to several incised bone fragments. The faunal list according to Perkins includes: Urial; Bezoar; horse; jackal; fox.

The excavations at Aq Kupruk uncovered several possible Upper Palaeolithic stone sculptures. In Kuprukian A, an oblong limestone pebble has been incised, probably with a chert burin, to form a caricature of a man's face. In the Kuprukian B levels, one limestone and one basaltic pebble have been shaped abstractly like pregnant women, again possibly "Mother Goddess" fertility symbols.

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28. Coon, *op. cit.*, 1957.
29. For example, the Perigordian.

The nearest Upper Palaeolithic sites to the Afghan Upper Palaeolithic are found in Iraq, (30) but further research in Iranian caves will probably produce similar industries. In fact, except for the extensive presence of geomttric micraliths, the "Mesolithic" industries of Hotu and Belt Caves (31) and the desert microliths of Kirman (32) (in Iran) have many technolcgical similarities too and may have developed out of industries resembling the Kuprukian. None has been found in India (33) nor, to the knowledge of the author, in Soviet Central Asia, with the possible exception of some new finds by Ranov in Tajikistan. (34)

"MESOLITHIC (10,580 + and - 720 years before 1950 Coon's Mesolithic). Coon calls his identifiable upper industry "Mesolithic", which yielded 58 tools, primarily microlithic cores and blades, but with no geometrics. Actually, the Kara Kamar "Mesolithic" should be included with Kuprukian B, but we must await C-14 dates from the Aq Kupruk digs before a final designation can be made. Besides, the Kara Kamar material is much too limited to allow a succinct definition of the industry.

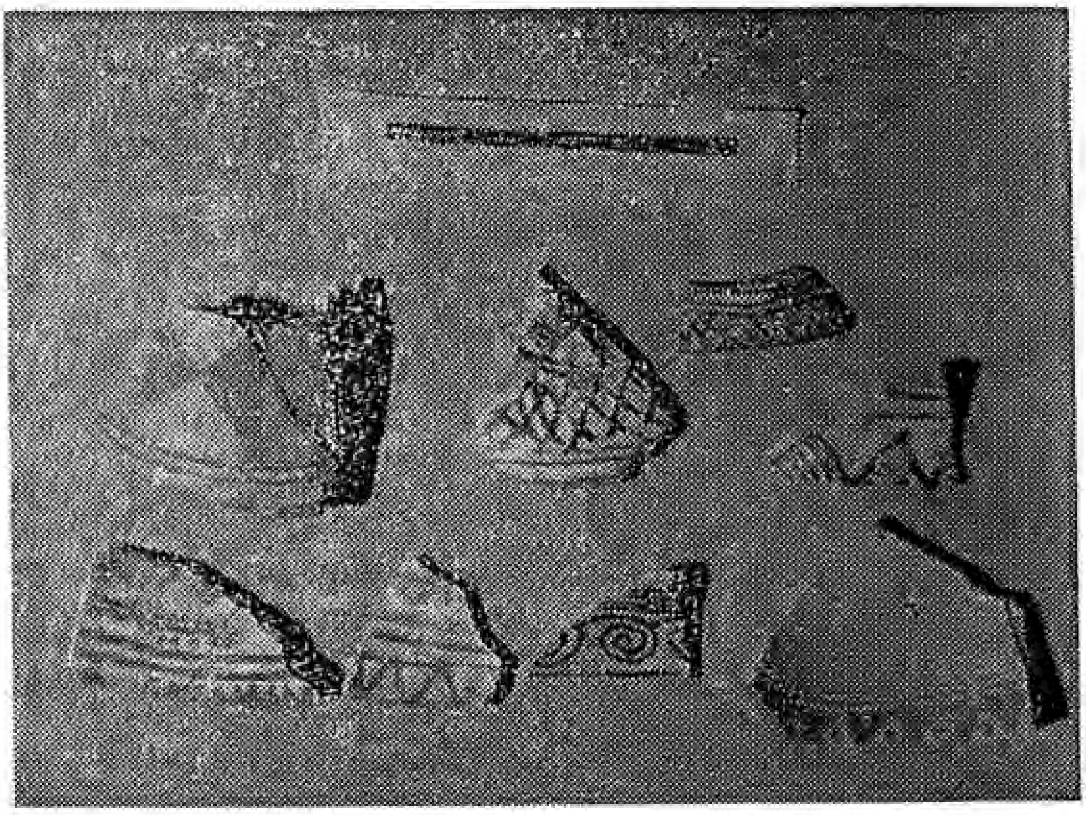
Gazelle, wild sheep, and mole vole were dietary favorites in the "Mesolithic".

NON-CERAMIC "NEOLITHIC" (8650 + and - 100 years before 1950). Carbon 14 dates from Hanover from Aq Kupruk I (Snake Cave). Domesticated sheep and goat have been identified from the first place of the Non-Ceramic "Neolithic" at Aq Kupruk I. The plant remains (including carbonized materials) have yet to be studied. An interesting pocket of sheep or goat dung appeared in the Non-Ceramic "Neolithic". Flint implements abound in both the Non-Ceramic "Neolithic" phases A and B, but a wider variety appears in the upper levels: sickle blades, cores, end and side scrapers on blades, points, backed blades, burins. Polished bone points also occurred.

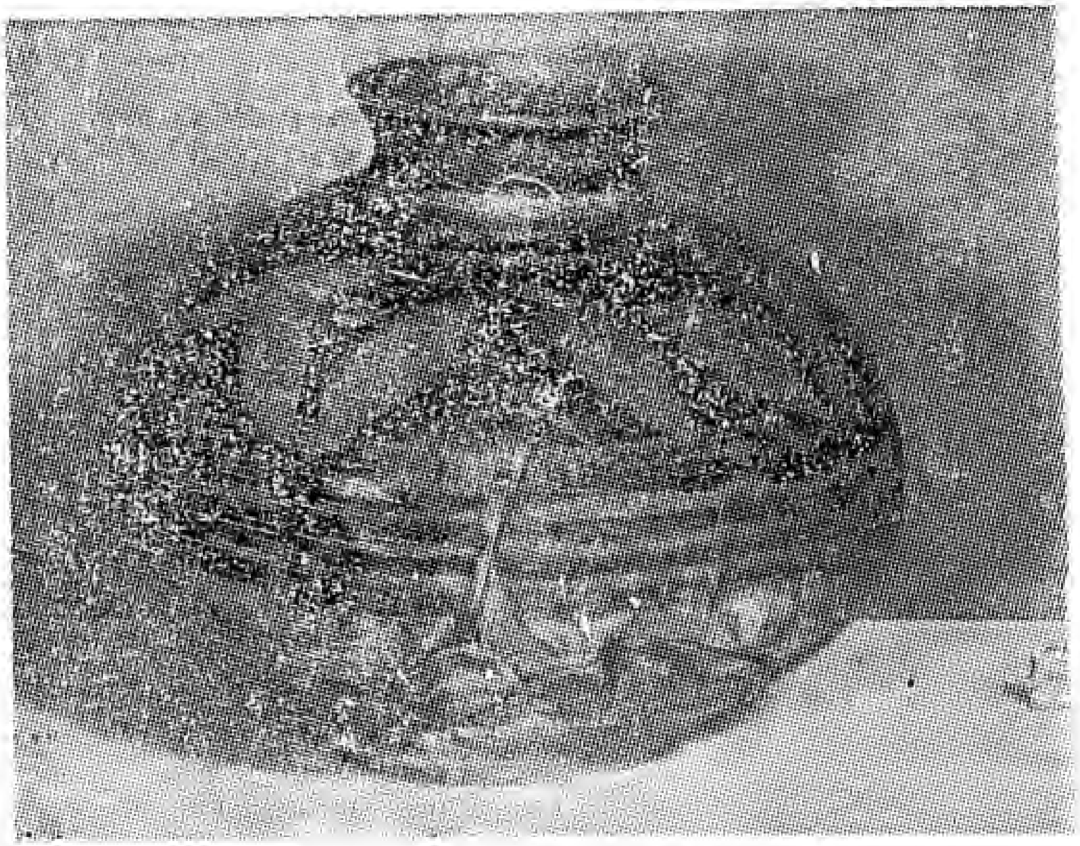
If the subsequent C-14 dates hold up (as listed above), and if the plant remains prove to be transitional or domesticated, the foothills of the Hindu Kush mountains in north Afghanistan must be considered one of the early centers for the domestication of plants and animals, the Neolithic revolution as V. Gordon Childs calls it, (35) for it permitted man to control his food supply, create surpluses which led to specialization and ultimately to civilization and nuclearization. Probably the wheat, barley,

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30. Robert Braidwood and Bruce Howe, *Prehistoric Investigation in Iraqi Kurdistan*, Chicago, 1960.
31. Coon, *op. cit.*, 1957.
32. Reinhold Huckriede, Jung-Quarter und End-Mesolithikum in der Provinz Kerman (Iran), *Eizeitalter und Genenwart* 12:25-42, 1961.
33. Sir R.E. Mortimer Wheeler, *Early India and Pakistan*, New York, 1959.
34. V.A. Ranov, *Kamennyi Vek Tadzhikistana* (The Stone Age of Tadzhikistan), 33 pp., Dushanbe 1963.
35. V. Gordon Childe, *What Happened in History*, New York, 1946.



Bronze Age Nomadic pottery. Aq Kupruk I (Snake Cave). Photo: H. E. Klappert.



Mundigak pottery. Photo: Kabul Museum.

sheep - goat complex developed in a general latitudinal (34°-40'N) altitudinal (500-750 meters above sea level) zone, and spread quickly across this zone from northcentral Afghanistan to Anatolia and possibly the Agean area. All Old World Neolithic sites discovered since World War II fall within this latitudinal, altitudinal ecological zone. Today, a slow walker, (15 km. a day), can travel across this zone easily within about six months, and we know that prehistoric man was not the homebody hypothesized by past generations of anthropologists. From the author's studies of modern nomads and peasants since 1949, he suggests that pastoral nomadism (emphasiszing sheep - goat economy) may have developed when dissidents in the incipient sedentary groups broke away because they could not stand the boredom of settling down, and return to a compromise between sedentary agriculture and the preceding hunting and gathering nomadic cultures, in which man was simply one animal chasing another.

The Non-Ceramic "Neolithic" faunal list compiled by Perkins includes: sheep/goat, and possibly cattle.

CERAMIC NEOLITHIC (C-14 dates, Aq Kupruk I: 7220 + and - 100 years before 1950). A change in straitgraphy heralded an introduction of pottery into the area at Aq Kupruk I and II. A crude soft ware, limestone sherd or chaff tempered with simple rounded rims and flat bases could be identified.

Other cultural finds included: limestone hoes, manos, metates, polishers, celts, stone bowl fragments, carved turtle shell fragments, and many flint tools including cores, sickle blades, micro points, bladelets, drills and a unifacially pressure-faked point. The soft ware Neolithic of Hotu and Belt Caves offer the closest parallels to the Aq Kupruk Ceramic Neolithic. (36)

The following founal remains have thus far been identified by Perkins: horse and domesticated sheep and goat.

The GOAT BURIAL NEOLITHIC AND THE DUPREE LINE (C-14 dates from Geochron Laboratories: 3425 + and - 125 years before 1950; 3870 + and - 130 years before 1950). A different type of Neolithic occured above the Middle Palaeolithic at Dara-i-Kur. More closely related to the later Neolithic of South Russia and South Siberia, the Goat Burial Neolithic of Dara-i-Kur has a diagnostic soft were (less than 5 hardness on the Moh Scale) pottery which I propose to call the Baba Darwesh Black Ware. Decorations include striated, punctuated and incised chevrons, parallel lines, triangles, ladder motifs, cross hatchings, and zigzags. Some base shreds have interior basket or fiber impressions. Others have finger impressed rims. Several pottery discs are perforated. The rare flint implements (sickle blades and a single point) were of a brown and brown-red homogeneous flint, completely unlike the ratty black silicious material of the underlying Middle Palaeolithic. Three polished stone axes were found

(36). Coon, *op. cit.*, 1957.

underlying Middle Palaeoithic. Three polished stone axes were found, one with a pecked, worked butt, along with bone awls, polishers, spatulas, gouges, and polished sheep astraguli. A slate knife and pendant, a long limestone knife, basaltic hammer stones, slate scrapers, quarzite pebble tools, perforated shell, a limestone bead, a steatite spindle whorl, a polished ed obsidiant, bracelet fragment, and a partly finished pendant of a local stone called sang-i-Hazrat Sayyid give witness to the diversity of the Goat Neolithic assemblage.

More importantly, post holes appeared in the soil, possibly for tents or even subterranean huts. The most spectacular finds, however, relate to the fauna. The excavators uncovered three pit burials containing articulated bones of domesticated goats, two with heads missing (purposely decapitated), one with fragments of two or three children's skulls in association. We can not be positive, but the burials possibly have ritual significance, relating to the Goat Cult which has existed in Central Asia from Mousterian to modern times. (37)

Other fauna identified by Dr. Perkins includes: domesticated sheep; domesticated cattle, Gazella subgottarosa; Equus przwalski; Vulpes vulpes; Meles meles; Canis aureus; Lupes canis; bird and fish bones.

The South Siberian-South Russian-Northeast Afghan Neolithic occurs much later than the Aq Kupruk Neolithic (cf. above C-14 dates), which relates to the much earlier Middle Eastern Neolithic. A line separating the begining of the foothill Neolithic of the Middle East and the mountain Neolithic of Central Asia (including Kashmir (38) can probably be drawn as indicated on the map, along approximately the 76th longitude line, the Dupree line, which divides the mixed farming-herding wheat-barley, sheep-goat Neolithic from the highland semi-nomadic Neolithic of Central Asia and South Siberia.

CHALCOLITHIC (C-14 date at Aq Kupruk I: 7030 X 110 before 1950) 5,000 years before present at Deh Morasi Ghundai and Mundigak: early use of copper plus Neolithic technology.) A Chalcolithic occurs both at Aq Kupruk I and the Morasi-Mundigak sequence, with Aq Kupruk I (Snake Cave) finds being among the earliest in the Middle East. Only one fragment occurred, however, a small specimen of bossed, beaten copper, possibly hammered on a wooden object such as a shield. Flints abound in the Snake Cave Chalcolithic: cores, sickle blades, blades, perforators, end scrapers, and one possible burin.

The pottery, much better fired than the Ceramic Neolithic of Aq Kupruk, includes some soft ware with finger impressions, but the major ware is a hard fired distinctive grey pottery with zigzag motifs which, on first glance, S.P. Tolstov of the USSR Academy of Sciences, pronounced to be

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(37). The author plans to write an article on this subject.

(38). H. De Terra and T. T. Patterson, *Studies on the Ice Age and Associated Human Cultures*, Washington, 1939.

about 5,000 B.C. (Based on his Central Asian excavations and resulting C-14 dates). This was substantiated by C-14 dates from Hanover: 7030 + and - 110 years before 1950.

Faunal remains thus far identified by Dr. Perkins are: domesticated goat, domesticated cattle, and onager. Large pockets of mollusces (two varieties) appear in the Aq Kupruk chalcolithic possibly forming a part of the diet of Chalcolithic man at Aq Kupruk.

BRONZE AGE (3000-1500 B.C.) The Bronze Age levels of the Morasi-Mundigak complexes in South-central Afghanistan are either fully sedentary or semi-sedentary, but the Aq Kupruk I Bronze Age, a later cave manifestation, probably represents pastoral nomadism. Previous archaeological work in Middle Eastern Bronze Age cultures has concentrated in sedentary farming and urban specialised manifestations, but since nomads have always been an important part of the Middle East and Central Asian scenes, the finds at Snake Cave can not be underestimated.

The excavators at Snake Cave uncovered many painted sherds, both black on buff surface, but with red on buff surface dominating. Motifs included: not-tipped rosettes; free, flowing repeated spirals, wavy lines; checker boards;naturalistic and stylized animals, primarily ibex and goat types; stylized plants, among others.

Several terracotta figurines were found. A realistic representation of a sheep is especially worthy of note, as is the figure of a man, probably a bow-legged horseman, wearing leather armour, with a beard and a possible hairlip. A highly stylized, completely degenerate female figuring (particularly when compared with the Morasi-Mundigak finds) was found in the Aq Kupruk I Bronze Age.

The metal finds indicate the Bronze Age nomads had contact with excellent metallurgists. Finds included: trilobate projectile points, socketed points, bracelets, rings, and earrings. Carnelian and clay beads (and probably a clay spindle whorl) were found in addition to worked flints, most dominate being side scrapers on blades.

Charts I and II graphically illustrate the relationships of the Deh Morasi Ghundai-Mundigak sites.

LATE BRONZE, EARLY IRON AGE (1st millenium B.C.) Another nomadic culture. represented chiefly by the burial of 10 or 11 individuals at Aq Kupruk IV (Skull Cave). This cultural period is also represented in Aq Kupruk I. The skeletons are now being studied by Dr. J. Lawrence Angel of the Smithsonian Institution.

Much grave furniture accompanied the burials, some of which had been disturbed by animals and possibly by later water action. The cultural finds included: a bronze mirror, probably South Siberian or Chinese, bracelets, rings, and projectile points. Iron objects included: points daggers, and horse-trappings. A silver ring with lapis lazuli setting was also uncovered as well as carnelian and other beads. Pottery included two plates of red streak-burnished pattern ware, (39) ungent jars, lamps, a

cup, and many scattered sherds. The late Bronze Age-Early Iron Age finds seem to relate typologically with the burials at Sialk (40) and Hissar (41) in Iran, and may be Scythian in origin.

TENTATIVE CONCLUSIONS

Even at the present inadequate state of our knowledge of prehistoric Afghanistan, several provocative speculations can be raised.

1. Dara-i-Kur Middle Palaeolithic not only contains acceptable "Mousterian" implements and trimming flakes, but possible elements of and Upper Palaeolithic blade industry, found in association with a human skull fragment tentatively identified as undistinguishable from modern Depending on the final analysis of the excavated material and further excavations, the finds could represent either the easternmost extension of a developed Mousterian, or sit in the zone of origin of one of the Upper Palaeolithic blade industries which spread throughout the Middle East, Europe and parts of northern and eastern Africa.

2. Early Neolithic evidence at Aq Kupruk indicates that the foothills of north Afghanistan quite possibly rests within the zone of origin for the domestication of the wheat-barley, sheep-goat complex, one of the more important technological revolutions in man's existence on earth. Possibly we also have a very early domesticated cattle at Aq Kupruk.

3. A fragment of worked copper in the Aq Kupruk Chalcolithic may prove to be among the earliest examples of deliberate metallurgy in the Middle East.

4. The Morasi-Mundigak assemblages represent the earliest definable villages yet found in Afghanistan, possibly as early as 5,000 years ago, or even earlier. An early barley occurs at Deh Morasi Ghundai.

5. The Bronze Age Nomadic at Aq Kupruk and the destruction levels of Morasi-Mundigak, Phase E in Dales' terminology (42) may be manifestations of the first major organized nomadic invasions flowing from Cen-Asia into the Indian subcontinent and the Iranian Palteau, i.e., the first explosion of the Indo-European speakers from the Central Asian-South Russian plains.

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(39). Louis Dupree, *Shamshir Ghar: Historic Cave Site in Kandahar Province Afghanistan*, New York, 1958.

(40). René Ghirshman, *Fouilles de Sialk*, Paris, 1938.

(41). Erich F. Schmidt, *Excavations at Tepe Hissar, Damghan*, Philadelphia, 1937.

Footnotes, Chart I

(1). C-14 dates from Geochron Laboratories, Inc., Cambridge, Mass., U.S.A. B.P. means "Before Present" or 1950.

(2). C-14 dates from Institute of Geology, Hanover, Germany. Number of sample: Hv 429.

(3). Hanover date : Hv 428.

(4). Hanover date : Hv 425.

(5). University of Pennsylvania (U. of Pa.) date.

(6). U. of Pa. date.

AFGHANISTAN 2(3), 1967

The Prehistoric Period (1) Of Afghanistan

By Louis Dupree (2)

Archaeologists have long recognized the importance of Afghanistan in the historic periods of Asia. The Delegation Archeologique Francaise en Afghanistan (DAFA), excavating in the country since 1922, uncovered, some of the first museum objects of twentieth century archaeology, (3) particularly at Hadda, (4) Begram, (5) Bamian, (6) Surkh Kotal, (7) and Ai Khanoum. These sites yielded extensive evidence of the rich cultures which flourished in Central Asia in the early centuries A. the thousands of terracotta heads of Hadda; the commercial hoard at Begram, with its examples of the Silk Route trade which stretched from Cathay to the Classical World; the gigantic sandstone statues of the Buddha at Bamiyan; the large syncretic religico-commercial site of Surkh Kotal, straddling a major north-south route from Central Asia to India; the eastern-most Greek town in the world, found at Ai Khanoum.

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1. Prehistory will be defined as the period from infinity to mid- first millenium, B.C. (about 2500 years before present).
2. Adjunct Professor of Anthropology, Pennsylvania State University; Associate, American Universities Field Staff; Research Associate, American Museum of Natural History.
3. Benjamin Rowland, Jr., *Ancient Art from Afghanistan: Treasures of the Kabul Museum*, New York, 1966.
4. J. Barthoux, *Les fouilles de Hadda*, Paris, 1930, 1933.
5. J. and J.-R. Hackin, *Recherches archéologiques à Begram*, Paris 1939; J. Hackin, J.-R. Hackin, J. Carl, P. Hamelin, *Nouvelles recherches archéologiques à Begram*, Paris ,1954.
6. A. Godard, Y. Godard, J. Hackin, *Les antiquités bouddhiques de Bamiyan*, Paris, 1928; J. Hackin J. Carl, *Nouvelles recherches archéologiques à Bamiyan*, Paris, 1933.
7. Daniel Schlumberger, Surkh Kotal: a late Hellenistic temple in Bactria, *Archaeology* 6-4:232-238, 1953.
8. Daniel Schlumberger, Paul Bernard, Ai Khanoum, *Bulletin de Correspondance Hellénique*, XXXIX-II: 590-657, 1965.

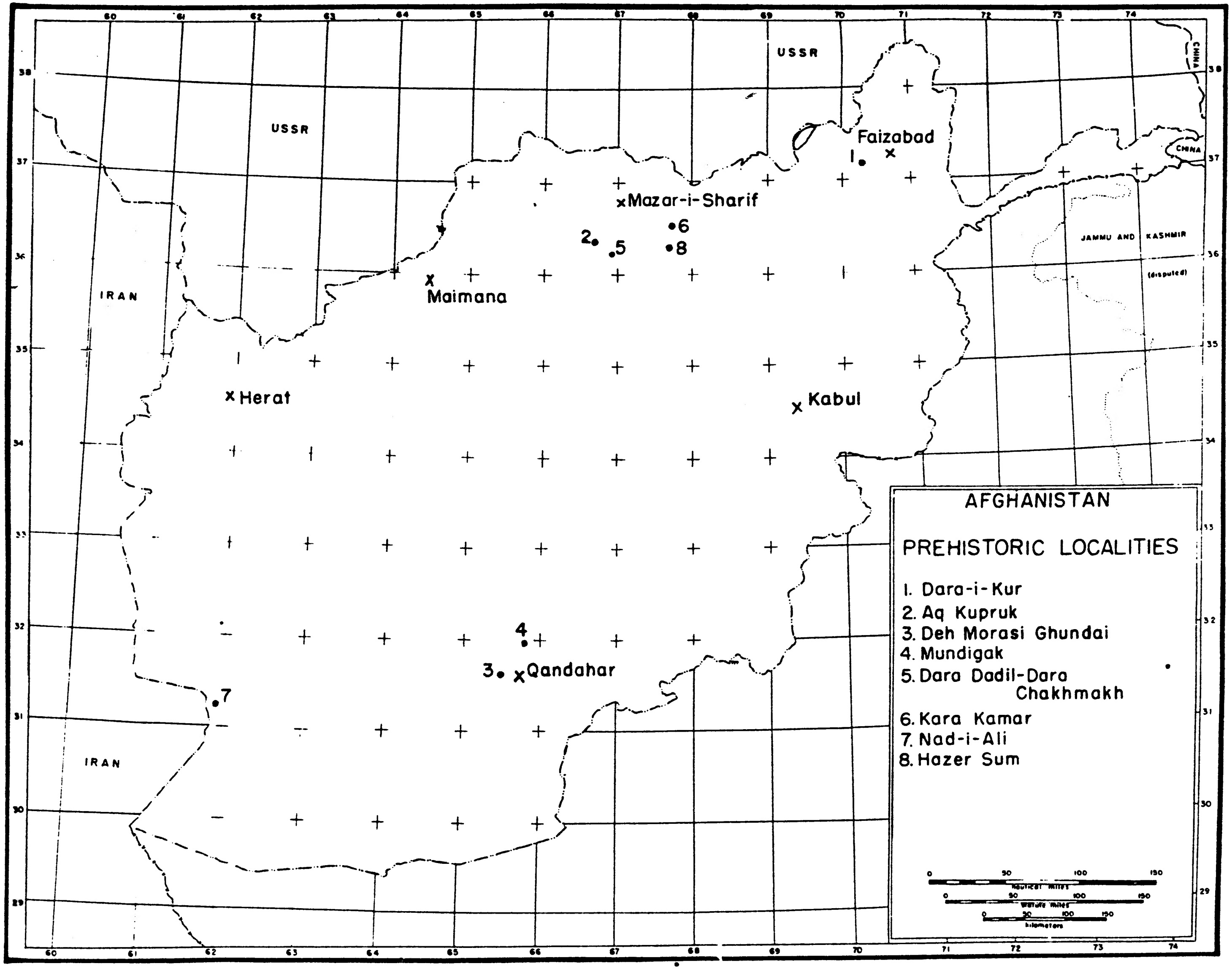

USSR
USSR
CHINA
CHINA
IRAN
IRAN
JAMMU AND KASHMIR
(disputed)
Faizabad
Mazar-i-Sharif
Maimana
Herat
Kabul
Qandahar
AFGHANISTAN
PREHISTORIC LOCALITIES
1. Dara-i-Kur
2. Aq Kupruk
3. Deh Morasi Ghundai
4. Mundigak
5. Dara Dadil-Dara Chakhmakh
6. Kara Kamar
7. Nad-i-Ali
8. Hazer Sum

CHART I

THE CULTURAL PERIODS: AFHHAN PREHISTORY	Aq Kupruk I (Snake)	Aq Kupruk II (Horse)	Aq Kupruk III (Open-air)	Aq Kupruk IV (Skull)	Deh Morasi Ghundai	Mundigak	Nad-i-Ali	Seistan Sites	Dara Dadil Dara Chakhmakh	Kara Kamar	Hazar Sum	Dara-i-Kur	
Late Bronze-Early Iron Age 1st Millenium B.C.	X	X	X	X	X	X	X	X					
Goat Cult Neolithic[1] 3780 ± 130 B.P. (collagen) 3425 ± 125 B.P. (carbonate)												X	
Bronze Age 5000-3500 B.P.	X	X		X	X	X		X					
Chalcolithic 7030 ± 110 yrs. B.P.[2]	X				X	X		X?					
Ceramic Neolithic 7220 ± 100 B.P.[3]	X	X											
Non-Ceramic Neolithic 8600 ± 100 B.P.[4]	X	X											
"Mesolithic" 10,580 ± 720 B.P.[5]										X			
Upper Palaeolithic (Blades-plus-micro) 34,000 + B.P.[6]	X	X	X							X			
Middle Palaeolithic (Flake-core) "Mousterian" 50,000 years ago									X		X	X	